



# ENDANGERED SPECIES TECHNICAL BULLETIN

Department of the Interior • U.S. Fish and Wildlife Service • Endangered Species Program, Washington, D.C. 20240

## Law Enforcement

# ***Special Agents Play Deterrent Role in Aiding ES***

An alleged international smuggling operation involving 2,500 illegal American alligator hides with a street value of more than \$1 million has been broken up by special agents of the U.S. Fish and Wildlife Service's Division of Law Enforcement—the result of a continuing investigation that began in 1974.

The case, which culminated in the indictment of four men and three corporations by a Federal grand jury in New York on December 6, is the largest smuggling operation prosecuted to date under the Endangered Species Act of 1973. It also represents a prime example of the difficulties special agents encounter in cracking down on violators—one of several key roles played by the Division in protecting Endangered species.

According to the Law Enforcement officials, special agents first learned of a possible smuggling operation in September 1974, when they received information about trafficking in alligator

hides poached in Louisiana. Investigators tracked a shipment of 500 hides on a truck from Louisiana to a tannery in New Jersey and arrested two men.

The men and a corporation were fined \$10,000 and placed on three years' probation after entering guilty pleas. But Division officials say the penalties did not stop the operation.

A subsequent investigation uncovered secret shipments of 2,500 alligator hides destined for tanneries in Japan and France for manufacture into commercial products. Investigators charged two more New York City area men and two Japanese firms, along with the original violators, as conspirators in the scheme. All are expected to go on trial early in 1978.

In another case, four young arctic peregrine falcons were discovered this past summer concealed in a false compartment of a dog shipping crate at the Fairbanks, Alaska, airlines terminal. The discovery was made after Pan American Airlines employees tipped

off Law Enforcement agents that the crate was suspiciously oversized.

An Idaho man was fined \$8,000 and given a suspended one-year jail sentence for his part in the illegal shipment of the Endangered birds. In imposing the fine—the heaviest handed down thus far for a single criminal violation of the Endangered Species Act—the judge took into consideration both the seriousness of the crime and the expense of returning the birds to safe nesting sites in the wild.

In a major investigation earlier this year, special agents working with the U.S. Customs Service exposed an international ring illegally supplying U.S. zoos with reptiles. Twelve wild animal dealers were indicted for violating the wildlife laws of the United States, Switzerland, Australia, Papua, New Guinea, the Philippines, Fiji, and Sri Lanka.

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## ***\$2.9 Million Falcon Recovery Plan Approved***

The Service has approved a final recovery plan calling for a \$2.9 million emergency Federal-State program to save the Rocky Mountain and Southwestern populations of the Endangered American peregrine falcon (*Falco peregrinus anatum*) from extinction.

In laying out its plan for an intensive recovery effort over an initial five-year period, the recovery team headed by Gerald R. Craig of the Colorado Division of Wildlife said the falcon population in the 13-state region has declined to fewer than 30 nesting pairs from a pre-1950 level of 180 known pairs.

"We anticipate further decline to extinction in view of the prevalent DDT contamination of this species in the region unless management action is undertaken and sustained immediately," the team said.

The plan sets as its prime objective an increase in the region's falcon population to a minimum of 100 actively breeding pairs producing young in the wild by 1995.

### Outline of Plan

The plan assigns emergency priority to the following measures:

- direct protection of peregrines and their habitat
- actions to increase natural productivity
- expansion of a captive breeding and release system

The team said nesting peregrines are vulnerable to human activities, sometimes require continual surveillance, "and always require systematic

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U.S. Fish and Wildlife Service photo

One of four arctic peregrine falcon chicks found by agents cached in crate at Fairbanks air terminal



## Regional Briefs

Botanists have joined four Endangered Species Program regional staffs in recent months. Their primary initial responsibility is to assist the Service in gearing up for final listings and Critical Habitat determinations on many of the 1,779 U.S. plants proposed for Endangered status and evaluation of the 1,404 plant taxa under review.

Regional Endangered species specialists also are contributing to the plant listing effort. They are calling upon the expertise of leading botanists in their areas and coordinating the collection of information about plant status and distribution among other Federal agencies in their regions. The following is a region-by-region summary of recent activities:

**Region 1.** Botanists Derral Herbst, a specialist in Hawaiian flora, and Duane Atwood, formerly with the Bureau of Land Management, joined the Service this past summer.

Herbst, based in Honolulu, currently is preparing information packets documenting the status of Hawaiian plants, including the 893 endemic species proposed as Endangered. The work is being assisted by members of the Hawaiian Botanical Society and other con-

sulting botanists. He reports that botanists accompanying Hawaiian bird survey teams have found some very rare plants that have not yet been proposed for listing. A more extensive survey of the State's native flora, primarily in low elevation areas, is now in the proposal stage.

Atwood, who is based in Portland, is developing a series of workshops to be conducted on a state-by-state basis to coordinate Federal and State plant conservation activities. Currently, the regional office is reviewing formal requests to list several California and Oregon plant species and is in the process of preparing Critical Habitat proposals for four plants.

**Region 2.** Endangered species specialist Jack Woody is coordinating the Service's plant status work with the U.S. Forest Service, Bureau of Land Management, Bureau of Reclamation, and U.S. Army Corps of Engineers in the Southwestern States. Several leading botanists in the region have been employed as consultants for status and distribution surveys of proposed and candidate Endangered and Threatened plant species.

A literature and herbarium search on Texas plant species is nearly com-

pleted. The State has more than 100 native plants proposed for listing as Endangered.

**Region 3.** Endangered species specialist Jim Engel reports that preliminary status reports have been completed for all plants proposed for listing in the region. The work has been accomplished with the cooperation of university botanists and State and Federal agencies. Several of the States already have well-developed plant conservation programs, which has speeded up preparation of the reports.

**Region 4.** Botanist Wayne Milstead, who also joined the Service this summer, plans a series of plant surveys on refuges and non-Service lands. He has been evaluating the nature of Federal and other plant conservation efforts underway in the region. Surveys of non-Federal lands are in the proposal stage. The information will be used for Critical Habitat proposals and final rulemakings on currently proposed plants. A group of West Florida plants is being investigated for early listing.

**Region 5.** Botanist Richard W. Dyer, who recently came to the Service from the U.S. Army Corps of Engineers, is working on plant listings with Endangered species specialist Paul Nickerson. The regional office has suggested a strategy plan for plant conservation that includes habitat protection and a sharing of responsibility among governmental, institutional, and private citizen organizations.

The New England Botanical Club, working on a voluntary basis, has been assisting in the collection of the data deemed necessary for preparation of final rulemakings.

**Region 6.** Final rulemakings are being prepared for 46 Utah, 8 Wyoming, and 7 Colorado plants that are among a total of 260 candidate plant taxa for listing from the region. Janet Hohn, a former Washington Department of Fish and Game botanist who joined the Service in September, now coordinates the work.

The regional office has under preparation by a private contractor an illustrated field guide to Colorado's Endangered and Threatened plants. This project has the support of the Colorado Native Plant Society.

Plant distribution data are being compiled for the 10 States in the region and eventually will be mapped.

**Alaska Area.** Dan Benfield joins the Service as of January 1 as the area's new Endangered species coordinator. He plans to assist with plant conservation efforts by consulting with experts at the University of Alaska and the Bureau of Land Management, and with other area botanists, to collect data on the 30 plants now under review, or proposed as Endangered, in Alaska.

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## Law Enforcement

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### Falcons For a Sheik

The three cases are among more than 6,000 opened under the Endangered Species Act of 1973 by Division of Law Enforcement special agents. Over the past four years, 5,000 of the cases have been closed and about 1,100 are pending.

Many of the cases have involved interstate and foreign commerce in the furs of Endangered species, such as leopard, tiger, ocelot, and cheetah, which command high prices because of their rarity. Agents have brought charges against merchants for selling articles (including guitar picks) made of the shell of the Endangered hawksbill turtle. There have been numerous cases involving persons who have killed American eagles and other Endangered birds and mammals merely because they present tempting targets.

In 1975, a wealthy Chicago businessman was convicted of trying to smuggle two peregrine falcons to the Middle East in order to entice a sheik into a business deal.

### Increasing Workload

Clark R. Bavin, Division chief, estimates the Service's 220 special agents devote 25 percent of their time to investigating violations involving Endangered species. With the recent adoption of U.S. regulations to enforce the Convention on International Trade in Endangered Species of Wild Fauna and Flora, he expects the number of investigations to increase substantially. Not only are more species protected by the regulations, but imports of wildlife and products made from them are rising greatly. As an indication of the already mounting workload, Bavin reports that in fiscal year 1977, the Endangered Species case load was 2,523, of which 2,132 cases were closed.

During this last fiscal year, 36 persons received criminal convictions involving \$8,445 in fines and 750 days in jail. (However, the courts suspended all of the jail sentences and \$900 of the fines.) More than 400 civil penalties were assessed, involving \$33,535 in fines. Some 740 animals and wildlife products valued at about \$80,000 were forfeited to the U.S. Government.

The Division is responsible for enforcing all Federal fish and wildlife laws regulating commercial and non-commercial usage. Special agents stationed in 13 district Law Enforcement offices (see map) work closely with State conservation agencies in performing investigations, as well as with Customs Service personnel and agents of the U.S. Department of Agriculture and the U.S. Public Health Service.



*A young American bald eagle suffering from gunshot damage to its primary and secondary tail feathers is examined by veterinarians upon arrival by plane at the Auburn University raptor rehabilitation center. The bird was saved by transplants of feathers from other eagles at the center, trained to fly again by students, and then released back to the wild (top photo) on December 5 near Greers Ferry, Arkansas, where it had been found by fishermen on October 19. This was the sixth injured eagle treated at the center under a program supported by the U.S. Fish and Wildlife Service's Division of Law Enforcement—but only the first to be able to fly free again. More than 500 Greers Ferry townsfolk, including several hunters and guides, signed a petition commending the rehabilitation effort and pledging their help in reinstating the eagle to his natural habitat in the area.*



In support of the Federal Endangered Species Program, the Division participates in the drafting of regulations, review of permit applications required under the 1973 act and the international convention, and maintains liaison with foreign governments on enforcement matters.

### Lacey Act—The Beginning

The Division traces its history back to 1900 with passage of the Lacey Act, the first Federal wildlife protection law. The Lacey Act prohibited interstate commerce in game killed in violation of State laws, and was intended to suppress the taking of game for sale and the taking of plumes and feathers from both game and nongame birds to supply the millinery trade. The act also established the first regulations over the introduction into the United States of exotic species of birds and mammals, and it prohibited the introduction of species that would be injurious to wildlife or agriculture.

Enforcement of the Lacey Act proved difficult, particularly in controlling the killing of birds for food and plumes. To stop the continuing depredation of swans, ducks, geese, cranes, and other birds, Congress in 1913 enacted the Federal Migratory Bird Law, later replaced by the Migratory Bird Treaty Act in 1918 to incorporate provisions of a treaty with Great Britain, which was acting for Canada and its migratory bird resources.

More recently, migratory bird treaties have been signed with Mexico and Japan covering game as well as nongame and Endangered species. Division chief Bavin says that, as a result, migratory bird law violations now make up almost half of the Division's annual volume of cases.

### High Wildlife Consumption

But where the Division has some of its largest headaches is in policing imports of wildlife—both alive and dead—and their parts and products. The United States is one of the largest consumers of wildlife in the world, and it is a major marketplace for both legal and illegal specimens. More than 400,000 reptiles are imported each year, along with about 100 million fish, several thousand birds, and about 100,000 mammals—some 85 percent of them primates, used mostly in biomedical research.

Despite a tightening of controls over international traffic in wild species, Bavin says the importation of manufactured goods—leather purses, shoes, jewelry, fur coats, carvings, trinkets, and other products—rose from a low of 1.7 million items in 1972 to 91 million in 1976. Skin and hide imports jumped from 910,000 in 1973 to 32.5 million in 1976. Likewise, the importation of game trophies is on the rise, increasing from 2,800 in 1973 to 34,000 in 1976.

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U.S. Fish and Wildlife Service photo

*Jo Anne Rumbaugh, one of the new wildlife inspectors at Los Angeles, examines box of cobra skin belts*

### New Inspector Force

The Division is now inspecting some 18,000 out of approximately 66,000 wildlife shipments a year at eight designated ports of entry (New York, Miami, New Orleans, Chicago, Seattle, San Francisco, Los Angeles, and Honolulu), border ports, and nondesignated ports. To handle the volume promptly, the Division has recently hired a force of wildlife inspectors. These inspectors have the authority to grant Fish and Wildlife Service clearances for import or export if shipments meet all requirements.

Any irregularities discovered by the inspectors are referred to a special agent in the port city for a followup investigation.

### Violator Profile

The wildlife inspector program has freed up the special agents so they can concentrate on investigating the increasing number of violations.

Bavin says today's wildlife violator is "more cunning, more calculating, and more inclined to conspire with others to make major inroads into wildlife resources." These people include poachers, middlemen, brokers, and shippers out to make a fast profit.

Well-heeled hunters are another difficult problem. Bavin says "many willingly pay large sums of money to kill a record animal illegally in one part of the country, or for that matter the world" and fly home again. Their trophies are shipped home later by devious means in the hope of escaping detection.

### Crocodilian Imports

Hides and products of crocodilians are a major import, legally and illegally, and present the Division with

## A VIP Escort for Migrating Whoopers

On their way south this fall, the whooping cranes at Canada's Wood Buffalo National Park picked up their customary escort as soon as they flew over the border into North Dakota.

Special agents of the U.S. Fish and Wildlife Service's Division of Law Enforcement, alerted by the Canadian Wildlife Service, were waiting in a small plane and in cars to track the main flock of about 70 whoopers down across the Plains States to their winter haven at the Aransas National Wildlife Refuge in Texas.

The purpose of the escort was to safeguard the whoopers against all forms of accident during their annual migration, which occurred just before the opening of the bird hunting season. The big birds wing along at better than 40 miles an hour, but at an altitude of only 500 to 600 feet in the company of a much larger flock of greater sandhill cranes.

As the birds moved southward, the Law Enforcement agents issued progress bulletins to the news media warning residents along the flyway when the birds were arriving. The agents also kept a sharp lookout for any situations that could pose a threat.

By December 1, 61 adult and 9 young whooping cranes hatched this summer had been sighted at or near the Aransas refuge. Last spring, 69 whoopers flew north to Wood Buffalo Park, leaving 8 adults yet to return south. The last stragglers did not complete the annual migration to Aransas last year until the end of December.

### Peregrine Watchers

The Division's special agents also help protect a number of other Endangered and Threatened migratory and mobile species in their habitats. These species include the peregrine falcon, grizzly bear, eastern timber wolf, Delmarva fox squirrel, southern bald eagle, greenback cutthroat trout, and Indiana bat.

Special attention is given nesting peregrines in California. Each year, the protection plan calls for 24-hours-a-day surveillance lasting from about two weeks before hatching until one week after fledging at active nest sites to prevent the falcons from being disturbed. This has helped increase nesting success.

The U.S. Forest Service and the California Fish and Game Department also participate in the monitoring and the surveillance effort.

some of its greatest policing difficulties. The major areas of origin are the rain forests of South and Central America, Central Africa, and Southeast Asia. Hides are shipped to Japan, Europe, and the United States for tanning and manufacture into products.

"Illegal hides are often smuggled out of the country and taken to a second country, which issues export permits to legalize or 'launder' them," Blavin says. "It should be noted this practice of laundering illegal wildlife occurs throughout the spectrum of international wildlife trade. . . . Often it is impossible to determine the source or to establish the illegality of products made from such hides as crocodilians, especially when the pieces of hide are small. Think about identifying watchbands, especially when the shipment contains 50,000."

### The Ivory Trade

Products made from ivory present inspectors with another identification challenge. At the present time, the United States prohibits the importation of all ivory and ivory products (except ivory from African elephants) to help preserve the Endangered Asian elephant. Bavin says that currently, as far as can be determined, almost all new

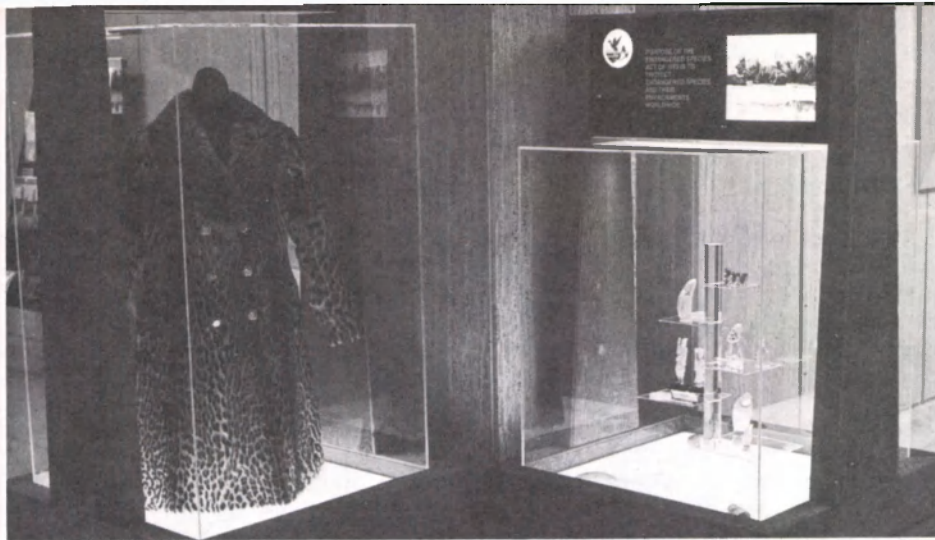
elephant ivory in world trade is of African origin and Asian elephants are not being taken. However, because the price of ivory ranges up to \$50 a kilo the poaching of African elephants becoming more prevalent.

California and several other States have banned the importation of ivory and ivory products. This has created a situation whereby ivory of African origin that has been carved in India, Hong Kong, or China may be shipped under Federal law into Los Angeles or San Francisco, where it is cleared and then transshipped to another State. Thereupon, the product may be transported back to California and sold illegally.

Proof that an imported species, hide, or product is illegal is usually the key to successful prosecutions. Whenever an inspector or an agent comes across a doubtful item, the Division calls upon a specialist in the relevant field of wildlife biology to assist with a positive identification. Recently, for example, an agent took a leopard coat that had been seized from a tourist entering the country to the Smithsonian Institution in Washington, D.C., to verify that it was in fact the product of an Endangered species.

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U.S. Fish and Wildlife Service photo

*This exhibit showing the mission of the Division of Law Enforcement in controlling trafficking of illegal specimens of Endangered species, and their parts and products, is now on display in the Minneapolis Federal Building. It was conceived by Fish and Wildlife Region 3 Endangered species specialists and is winning public attention.*

### Disposition of Cases

Once an item has been seized and identified as being in violation of the 1973 act or Convention regulations, the person involved is notified accordingly by the agent in the field. The case is then forwarded to Washington for civil action if it has been determined that a criminal prosecution is not warranted.

In cases that are disposed of administratively, the Division reviews the evidence and makes a finding. The

violator is then notified of the penalty assessed, which usually involves forfeiture of the contraband and an appropriate fine. The violator may accept the proposed penalty, petition for relief, or request a hearing before an administrative law judge. Such hearings may result in a higher penalty or a compromise lesser penalty.

The civil penalties may range up to \$10,000 per violation in cases where it is proven that the violator's action was

taken "knowingly" against the law. For people who violate the law unwittingly, such as tourists bringing in an animal as a pet unaware that it has been listed as an Endangered species, the penalty ranges up to \$1,000.

### Criminal Penalties

Harsher penalties are imposed for criminal violations in which "willful" intent to break the law is proven. Fines may range up to \$20,000 and the guilty party may receive up to two years in jail.

Law Enforcement agents may pursue criminal cases in Federal or State courts when a State agency is involved. In cases where hunting violations have occurred involving protected species, judges frequently impose a jail term, but then suspend the sentence and place the violator on probation. The violator may also be deprived of his privilege to hunt while on probation. If he is caught in another violation while on probation, he often is required to serve the jail term.

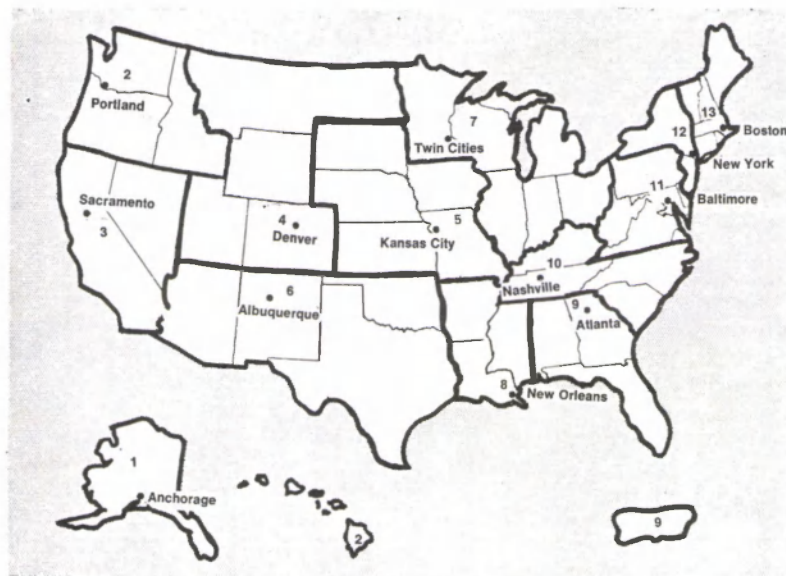
### New Breed of Agent

To cope with its broader and more complex responsibilities, the Division has been recruiting and training a new kind of agent—one that Bavin describes as being "more of a professional criminal investigator with a deep interest and knowledge of wildlife management principles." Where the recruiting base was formerly State conservation officers, the Division now is hiring more young college graduates with backgrounds in wildlife management, law, police administration, police science, criminology, and the behavioral sciences.

New agents are sent to the Federal Law Enforcement Training Center at Glynco, Georgia, where they undergo three months of specialized training. The first two months are devoted to criminal investigation, including learning the rules of evidence and search and seizure procedures. The third month is devoted to enforcement of Federal fish and wildlife laws. Upon graduation, the agents are assigned to one of the 13 district offices for a year of on-the-job training.

It is during this period of training that they are expected to become experts in identifying contraband wildlife. "We use pictures and descriptions of wildlife as aids in identification—but it's not enough," says Victor A. Blazevec, special agent in charge of the Branch of Investigations. "For small pieces of fur a feel for the texture is important. It can make the difference between identifying them as felid or canid furs. Other physical characteristics also can be learned only by experience."

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# Rulemakings - November 1977

## Pine Barrens Treefrog

In a final ruling, the Service has determined the Florida population of the pine barrens treefrog (*Hyla andersonii*) to be Endangered and has designated its territory as Critical Habitat (F.R. 11/11/77).

The ruling, effective December 8, 1977, will help protect the Florida population from further habitat loss and also from would-be collectors.

The final rulemaking is basically the same as that proposed in the *Federal Register* on April 5, 1977 (see May 1977 BULLETIN). Of the six individuals and organizations that commented on the proposal, three endorsed it, two stressed the need for comparable protection for the New Jersey population, and one commented only on the Carolina populations of the species.

## Golden Coqui

In a final rulemaking on the golden coqui (*Eleutherodactylus jasperii*), the Service has determined that the species qualifies for listing as Threatened and designated its territory in east-central Puerto Rico as Critical Habitat (F.R. 11/11/77).

Effective December 8, 1977, the ruling provides the first regulations for the protection of this species.

The original proposal was published in the *Federal Register* on April 5, 1977 (see May 1977 BULLETIN). Subsequently it was endorsed by the Commonwealth government of Puerto Rico, as well as by the Democratic Party of Puerto Rico. Neither these nor any other comments received provided substantive information to warrant revising the proposal. Accordingly, the final ruling, in substantiating and somewhat amplifying the proposal, emphasizes the threat of human development to the obligate bromeliad-dwelling frog.

## Atlantic Salt Marsh Snake

A final Service rulemaking scheduled to take effect on December 29, 1977, determines the Atlantic salt marsh snake (*Nerodia fasciata taeniata*) to be a Threatened subspecies (F.R. 11/29/77).

The final ruling is substantially the same as the original proposal published in the *Federal Register* on June 2, 1977 (see June 1977 BULLETIN).

Nine individuals associated with various governmental and private organizations commented on the proposal. The Florida Game and Fresh Water Fish Commission gave full support to the proposal, as did F. Wayne King representing the New York Zoological Society.

Although there were no wholly negative responses, several respondents suggested Endangered rather than Threatened status for the snake and also proposed adding Critical Habitat designation.

Following an indepth review of these suggestions, the Service concluded that, on the basis of available data, the status of this subspecies does not meet the criteria for an Endangered classification. Although habitat alteration and hybridization do represent serious threats to the snake, the Service believes that the subspecies is not in danger of becoming extinct at the present time.

Sufficient distributional data are not yet available to warrant final Critical Habitat designation for this snake.

The final rulemaking also reflects a recent nomenclatural change: *Natrix* as the name for North American species of water snakes has been changed to *Nerodia*.

## Woundfin

Portions of the main channel of the Virgin River in Nevada, Arizona, and Utah have been proposed as Critical Habitat for the woundfin (*Platypharodon argenteus*) in a rulemaking issued by the Service (F.R. 11/2/77).

Comments from the public should reach the Service no later than January 2, 1978; comments from the Governors of Nevada, Arizona, and Utah are expected by February 1, 1978.

## Background

In the past, the woundfin was found throughout much of the lower Colorado river system (downstream from the Grand Canyon). However, it has been extirpated in most parts of its range and now appears to be found only in the Virgin river system, which is tributary to the Colorado. Survival and recovery of the species depends on the maintenance of suitable, undisturbed habitat (silty waters with moderate to swift currents) in this river system.

The Service is proceeding with the proposed rulemaking on the basis of its notice of intent to determine Critical Habitat (F.R. 5/16/75), and the Woundfin Recovery Team's report and supporting studies.

## Four Southeastern Fishes

The Service has proposed Endangered status and Critical Habitat designation for four small fishes found only in the Southeastern United States (F.R. 11/29/77).

The fishes are the Cahaba shiner (*Notropis* sp.), spring pygmy sunfish (*Elassoma* sp.), pygmy sculpin (*Cottus pygmaeus*), and goldline darter (*Perca aurilineata*). The darter occurs in both Alabama and Georgia; the other three fishes are found only in Alabama.

The Service's proposal is based on evidence that the four fishes have suffered population declines and are currently threatened by adverse modification of their habitats. All four are already considered endangered by the State of Alabama; the darter is listed as threatened by the State of Georgia.

Deadlines for the submittal of comments on the proposal have been set by the Service as follows: January 30, 1978, for the public and February 27, 1978, for the Governors of Alabama and Georgia.

## Status Reviews

### Mexican Duck

The Service has announced that it will review the status of the Mexican duck (*Anas diazi*) to determine whether or not the bird should be proposed for reclassification from Endangered to Threatened or for complete delisting (F.R. 11/30/77).

The Service is attempting to determine what portion, if any, of the Mexican duck's U.S. and/or Mexican population should be included in any listing under section 4 of the Endangered Species Act of 1973.

Comments relevant to this review should be submitted to the Service no later than February 1, 1978.

## Background

The duck was originally listed as Endangered under the Endangered Species Preservation Act of 1966, because of the threat of habitat destruction in the Southwestern United States and hybridization with the mallard (*Anas platyrhynchos*). At the time of listing, it was estimated that perhaps 20-40 percent of all Mexican-like ducks in the United States were possibly hybrids.

Various studies prepared since then indicate that there is a breeding population of at least 15,000 genotypically pure Mexican ducks present in the central highlands of Mexico (the bird's main range). Furthermore, to date there appears to be no evidence that this population is subject to any major threat.

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In one of these studies, published by the New Mexico Department of Game and Fish in October 1977, John P. Hubbard concludes that 89.6 percent of all Mexican-like ducks preserved as museum specimens from the United States are phenotypically hybrids. Hybridization has been so extensive that Hubbard and several other noted ornithologists believe the Mexican duck should now be reclassified as a subspecies of mallard—*Anas platyrhynchos diazi*.

## Ten Reptiles

The status of ten species and subspecies of reptiles is to be reviewed by the Service to ascertain whether or not any of them should be proposed for Endangered or Threatened status (F.R. 11/3/77).

The ten reptiles and their locations are as follows:

- Baker's legless lizard (*Amphisbaena bakeri*)—Puerto Rico.
- Pandanus skink (*Aulacoplax leptosoma*)—U.S. Trust Territory of the Pacific Islands.
- Desert kingsnake (*Lampropeltis getulus splendida*)—Arizona, New Mexico, Texas, and Oklahoma.
- Gray-banded kingsnake (*Lampropeltis mexicana alterna*)—Texas.
- Flat-tailed horned lizard (*Phrynosoma m'calli*)—California.
- Black pine snake (*Pituophis melanoleucus lodingi*)—Louisiana, Mississippi, and Alabama.
- Louisiana pine snake (*Pituophis melanoleucus ruthveni*)—Louisiana and Texas.
- Short-tailed snake (*Stilosoma extenuatum*)—Florida.
- Miami crowned snake (*Tantilla colitica*)—Florida.
- Coachella Valley fringe-toed lizard (*Uma inornata*)—California.

These reptiles are to be reviewed because there is sufficient evidence available that overcollection and habitat destruction may be contributing to their decline.

All information relevant to this status review should be submitted to the Service no later than February 1, 1978.

### We Still Need Your Help

Your response to our call for information and suggestions has been most encouraging and useful, and it has played an important role in making the BULLETIN a success. Consequently, we invite you to continue sending us reports on your latest research and management activities (accompanying illustrations are also most welcome), as well as your ideas and comments about specific topics and about the usefulness of the BULLETIN as a whole.

## Falcon (continued from page 1)

reconnaissance if we are to remain aware of their status and alert to potentially unfavorable changes in habitat."

The team said natural reproduction can be enhanced by artificial incubation of eggs and return of young to the care of adults. It noted that removal of clutches stimulates the laying of a second set of eggs, providing extra eggs for incubation and subsequent rearing by nonproductive wild pairs.

According to the approved plan, the captive breeding technology for this species is now beyond the experimental stage. A breeding stock of *F. peregrinus anatum* is now being produced, and release techniques are being tested under the Cornell University-Peregrine Fund Project and a few other private projects. But the team said the funding of the projects was "haphazard" and recommended that the service establish a long-term captive propagation and release program at Fort Collins, Colorado, to produce 75 or more young falcons a year.

This would require a breeding stock of 36 pairs. To ensure genetic variation in the captive-reared birds, the team said a minimum of 25 unrelated pairs must be established as foundation stock. (Craig reports that the Peregrine Fund facility in Fort Collins now has the breeding pairs necessary for an ongoing captive propagation program.)

The plan urges a continuing evaluation of DDT contamination of pere-

grines and their prey. What few data are available suggests the contamination is extremely high, but the sources have not been definitely determined. (It appears to investigators that the birds are now picking up many of the contaminants in their southern wintering grounds.)

A public information program about the falcon's recovery needs is also included in the plan.

## Funding Proposal

Approximately half of the \$2.9 million program would be funded by Federal agencies, and it is anticipated that the Fish and Wildlife Service would assume about \$1 million, with the remainder provided by the Forest Service and National Park Service. The other half of the funding would be supplied by the States of Arizona, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming; it is hoped that this would be accomplished through Federal aid programs.

Even with a full-scale recovery operation, the team warned that a turnaround for the falcon in the region "seems impossible over the near term." But the team is optimistic the peregrine can be returned to "much higher and safer numbers" over a 20-year period, given a "continued, enthusiastic, and skillful effort."

## Plan Approved for Santa Cruz Long-toed Salamander

A recovery plan to secure four known pond habitats of the Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*) has been approved by the Service. The sites lie just south of Santa Cruz, California, between State Route 1 and Monterey Bay.

The salamander, discovered in 1954, has become Endangered through the loss of its primary habitat in Valencia lagoon, which was partially filled and drained to convert the State highway to a freeway in 1969. Presently, the salamander is confined to four small breeding pond areas supporting an estimated total population of about 10,000 individuals.

Some land has been acquired by the State of California to protect two of the salamander's prime habitat areas—Ellicott Slough and Valencia—which have both been converted to State ecological reserves. The California Fish and Game Department under a cooperative agreement with the Service is surveying the Valencia lagoon area to identify terrestrial habitat vital to the amphibian's existence, which is threatened by rapid residential encroachment.

The Service's planned recovery effort also provides for better management of Valencia Lagoon and Ellicott Slough as well as the possible acquisition of land or easement to provide additional protection.

Nearly 120 acres surrounding the Ellicott Slough reserve—the only relatively undisturbed habitat remaining—have been acquired by the Service for inclusion in the National Wildlife Refuge System. Acquisition of the Struve Pond area is presently being contemplated.

## Captive Birds Symposium Planned

The International Ecological Conservation Foundation (IECF) will sponsor the "First International Birds in Captivity Symposium" in Seattle, Washington, March 8-12, 1978. Session topics will include husbandry, medicine, behavior, ornithological studies, nutrition, sexing techniques, and reproduction. For registration information, contact Jan R. van Oosten, chairman, IECF, 1008 James Street, Seattle, Washington, 98104.

# Task Force Evaluating ES Research Needs

A task force has been formed to evaluate the process by which Endangered Species Program research needs are identified and research products are utilized by management.

In a memorandum establishing the task force, Program Manager Keith M. Schreiner said the information obtained "will be of great assistance in immediate and long-term management of the Program, and will enable the most efficient allocation of our limited resources for the maximum benefits of listed and candidate species."

Among other questions to be addressed, the task force will make recommendations on:

1. How research objectives can best be formulated to be specific to recovery needs of listed species and closely coordinated with recovery plans and teams.

2. The criteria to be used to determine which research activities should be conducted in-house and which of them should be undertaken by outside contractors.

3. How the effectiveness of monitoring and evaluating outside research contracts can be increased.

Members of the task force are John Murphy (chairman), Rollin Sparrowe, Sandra Hamilton, Chuck Meslow, and Jay Sheppard—all FWS employees. A final report is anticipated in February.

## Pending Rulemakings

The Service expects to issue rulemakings and notices of review on the subjects listed below during the next 90 days. The status or action being considered for each final and proposed rulemaking is given in parentheses.

The decision on each final rulemaking will depend upon completion of the analysis of comments received and/or

## BOX SCORE OF SPECIES LISTINGS

Category	Number of Endangered Species			Number of Threatened Species		
	U.S.	Foreign	Total	U.S.	Foreign	Total
<b>Mammals</b> .....	36	227	263	2	17	19
<b>Birds</b> .....	68	144	212	2		2
<b>Reptiles</b> .....	10	46	56	3		3
<b>Amphibians</b> .....	5	9	14	2		2
<b>Fishes</b> .....	30	10	40	9		9
<b>Snails</b> .....		1	1			
<b>Clams</b> .....	23	2	25			
<b>Crustaceans</b> .....						
<b>Insects</b> .....	6		6	2		2
<b>Plants</b> .....	4		4			
<b>Total</b> .....	182	439	621	20	17	37

Number of species currently proposed: 102 animals  
1867 plants (approx.)

Number of Critical Habitats proposed: 34

Number of Critical Habitats listed: 22

Number of Recovery Teams appointed: 59

Number of Recovery Plans approved: 9

Number of Cooperative Agreements signed with States: 20

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new data made available, with the understanding that such analysis may result in modification of the content or timing of the original proposal, or the rendering of a negative decision.

### Pending Final Rulemakings

- Bald eagle (modification of status in Lower 48 States)
- Leopard darter (T, C.H.)
- 27 snails (E, T)
- 6 butterflies (C.H.)
- Contra Costa wallflower and Antioch Dunes evening primrose (C.H.)
- 13 plants (E, T)
- Houston toad (C.H.)
- Grizzly bear (C.H.)
- Gray wolf (reclassification to T in Minn., C.H.)
- 15 crustaceans (E, T)
- Whooping crane (C.H.)
- Black toad (T, C.H.)
- Mona boa (T, C.H.)
- Mona ground iguana (T, C.H.)
- Eastern indigo snake (T)
- Houston toad (C.H.)

### Pending Proposed Rulemakings

- Ozark big-eared bat (E)
- Virginia big-eared bat (E)
- African elephant (S.O.A. to Asian elephant)
- 10 North American beetles (E, T)
- 2 harvestmen (E, T)
- 3 mussels (C.H.)
- Rocky Mountain peregrine falcon population (C.H.)
- Colorado squawfish (C.H.)
- Virgin River chub (E, C.H.)
- 2 Hawaiian cave invertebrates (E, T)
- Leatherback sea turtle (C.H.)
- Grevy's and Hartmann's mountain zebras (E)
- 4 Alabama and Georgia fishes (E, C.H.)
- 5 Southeastern fishes (T, C.H.)
- Puerto Rican whip-poor-will (C.H.)
- Laysan duck (C.H.)
- African elephant (T)
- Socorro isopod (E)
- Bonytail chub (E)
- Razorback sucker (T)
- 2 Hawaiian arthropods (E, T)
- Whooping crane (C.H.—additional areas)

Abbreviations: E=Endangered, T=Threatened, C.H.=Critical Habitat, S.O.A.=Similarity of Appearance



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